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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,985	09/05/2003	Edward B. Boden	POU920030124US1	9696

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Philmore H. Colburn II
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER	
DWIVEDI, MAHESH H	

ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/656,985	BODEN ET AL.	
	Examiner	Art Unit	
	Mahesh H. Dwivedi	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/27/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/05/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 09/05/2003 has been received, entered into the record, and considered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

2. The disclosure is objected to because of the following informalities: The disclosure contains several misuses of acronyms. Specifically, the acronym OGSA (Open Grid Services Architecture) is stated as **"OSGA"** in paragraphs 4 and 5.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 11-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 11-17 appear to represent nonfunctional descriptive material. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of

"data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. See also In re Johnson, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claims 11-17 are further rejected under 35 U.S.C 101 because the claimed invention is directed to the non-statutory subject area of electro-magnetic signals. Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at

112-14. Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell Development Co. v. Watson, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), aff'd, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by

giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." Diamond v. Chakrabarty, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting American Fruit Growers, Inc. v. Brogdex Co., 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See American Disappearing Bed Co. v. Arnaelsteen, 182 F. 324, 325 (9th Cir. 1910), cert. denied, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. Lorillard v. Pons, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in American Fruit Growers when it passed the 1952 Patent Act. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth

below in anticipation of applicant amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-4, 6, 7, 9-14, and 16-17 are rejected under 35 U.S.C. 102(a) as being anticipated by **Java** (Article entitled "Java Programmer's Guide").

7. Regarding claims 1 and 11, **Java** teaches a method and storage medium comprising:

A) installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an implementation of a deployment grid service, said grid artifacts including (Pages 3-5):

B) a Web service deployment descriptor (Pages 3-5);

C) a service implementation (Pages 3-5); and

D) a WSDL describing said service implementation (Pages 3-5); and

E) providing addressability of said grid service to a client system by updating said

Web service deployment descriptor with service data elements and typemappings associated with said client system (Page 10); and

F) wherein said artifacts are resident in a GAR file provided by a grid services deployment system (Pages 3-5).

The examiner notes that **Java** teaches **"installing grid artifacts"** as "deploy the gar package" (Page 5).

Regarding claims 2 and 12, **Java** teaches a method and storage medium comprising:

A) extracting Java class files from said GAR file (Page 5);

B) copying said Java class files into a first subdirectory on said target hosting environment directory (Page 5);

C) extracting Java Jar files from said GAR file (Page 5); and

D) copying said Java jar files into a second subdirectory (Page 5).

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a **"gar package"** (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 3 and 13, **Java** further teaches a method and storage medium comprising:

A) extracting WSDL files from said GAR file (Page 5); and

B) copying said WSDL files into a third subdirectory on said target hosting environment (Page 5).

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a **"gar package"** (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 4 and 14, **Java** further teaches a method and storage medium comprising:

A) extracting service Web Service Deployment Descriptors (WSDD) files (Page 5);

B) copying said service WSDD files into a temporary directory of said target hosting environment directory (Page 5);

C) extracting client Web Service Deployment Descriptors (WSDD) files (Page 5); and

D) copying said client WSDD files to a temporary directory at said target hosting environment (Page 5).

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a **"gar package"** (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 6 and 16, Java further teaches a method and storage medium comprising:

A) merging said service element and sub-elements into said active WSDD (Page 10); and

B) merging any service XML-to-Java typemappings needed for XML-to-Java serialization and deserialization based upon said types defined in a grid service's WSDL definition (Page 10); and

C) merging any client XML-to-lava typemappings into said active client WSDD in the event that said grid service itself is a client to another grid service (Page 10).

Regarding claims 7 and 17, **Java** further teaches a method and storage medium comprising:

A) wherein multiple grid services are simultaneously deployed (Page 5).

The examiner notes that **Java** teaches **"wherein multiple grid services are simultaneously deployed"** as "package your configuration, schemas, and code into a gar package" (Page 5).

Regarding claim 9, Java teaches a system comprising:

A) at least one web-enabled client system (Page 1);

B) a host system in communication with said at least one client system, said host system operating in an OGSI architected environment (Page 1);

C) a grid services deployment system executing on said hhost system (Page 5)

D) at least one hosting environment system, said at least one hosting environment system providing grid services (Page 1); and

E) a host directory located on said at least one hosting environment system, wherein said grid services deployment system performs (Page 5):

F) installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an implementation of a deployment grid service, said grid artifacts including (Pages 3-5):

G) a Web service deployment descriptor (Pages 3-5);

H) a service implementation (Pages 3-5); and

I) a WSDL describing said service implementation (Pages 3-5); and

J) providing addressability of said grid service to said client system by updating said Web service deployment descriptor with service data elements and typemappings associated with said client system (Page 10); and

K) wherein said artifacts are resident in a GAR file provided by a grid services deployment system (Pages 3-5).

Regarding claim 10, **Java** further teaches a system

A) a user interface operable for interacting with said at least one web-enabled client system (Page 1).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 5, 8, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Java** (Article entitled "Java Programmer's Guide") as applied to claims 1-4, 6, 7, 9-14, and 16-17 above and in view of **Wilder-Mcbride** (Book entitled "Java Development on PDAs: Building Applications for PocketPC and Palm Devices).

10. Regarding claims 5 and 15, **Java** teaches a method and storage medium comprising:

A) copying said GAR file into a deployedGARs subdirectory in said target hosting environment directory (Page 5);

The examiner notes that **"copying said GAR file into a deployedGARs subdirectory in said target hosting environment directory"** is analogous to "deploy the gar package into a grid service hosting environment" (Page 5). The examiner further notes that **"subdirectory"** is analogous to "distribution directory" (Page 5).

Java does not explicitly teach:

B) wherein said copying said GAR file into a deployedGARs subdirectory is operable for undeploying a grid service operation.

Wilder-Mcbride, however, teaches **"wherein said copying said GAR file into a deployedGARs subdirectory is operable for undeploying a grid service operation"** as "undeploy the web service" (Page 15)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Wilder-Mcbride's** would have allowed **Java's** to provide a method to remove an existing web service to allow for new updates and newer services to appear on a host.

Regarding claim 8, **Java** teaches a method comprising:

A) said grid artifacts including: a Web service deployment descriptor (Pages 3-5);

B) a service implementation (Pages 3-5); and

C) a WSDL describing said service implementation (Pages 3-5).

Java does not explicitly teach:

D) removing grid artifacts from a directory located on a target hosting environment.

Wilder-Mcbride, however, teaches **"removing grid artifacts from a directory located on a target hosting environment"** as "undeploy the web service" (Page 15)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Wilder-Mcbride's** would have allowed **Java's** to provide a method to remove an existing web service to allow for new updates and newer services to appear on a host.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. PGPUB 2004/0068553 issued to **Davis et al.** on 08 April 2004. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to use and dynamically deliver grid services).

U.S. PGPUB 2004/0117425 issued to **Berkland et al.** on 17 June 2004. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to use grid services).

U.S. PGPUB 2003/0105884 issued to **Upton** on 05 June 2003. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to deploy services using ANT)

Article entitled: "GT 3.0: Grid Sevice Development Tools Guide", (June 6, 2003). The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to deploy services using ANT)

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi

Patent Examiner

Art Unit 2168

March 07, 2006

Leslie Wong

Primary Examiner